

09364786-073099

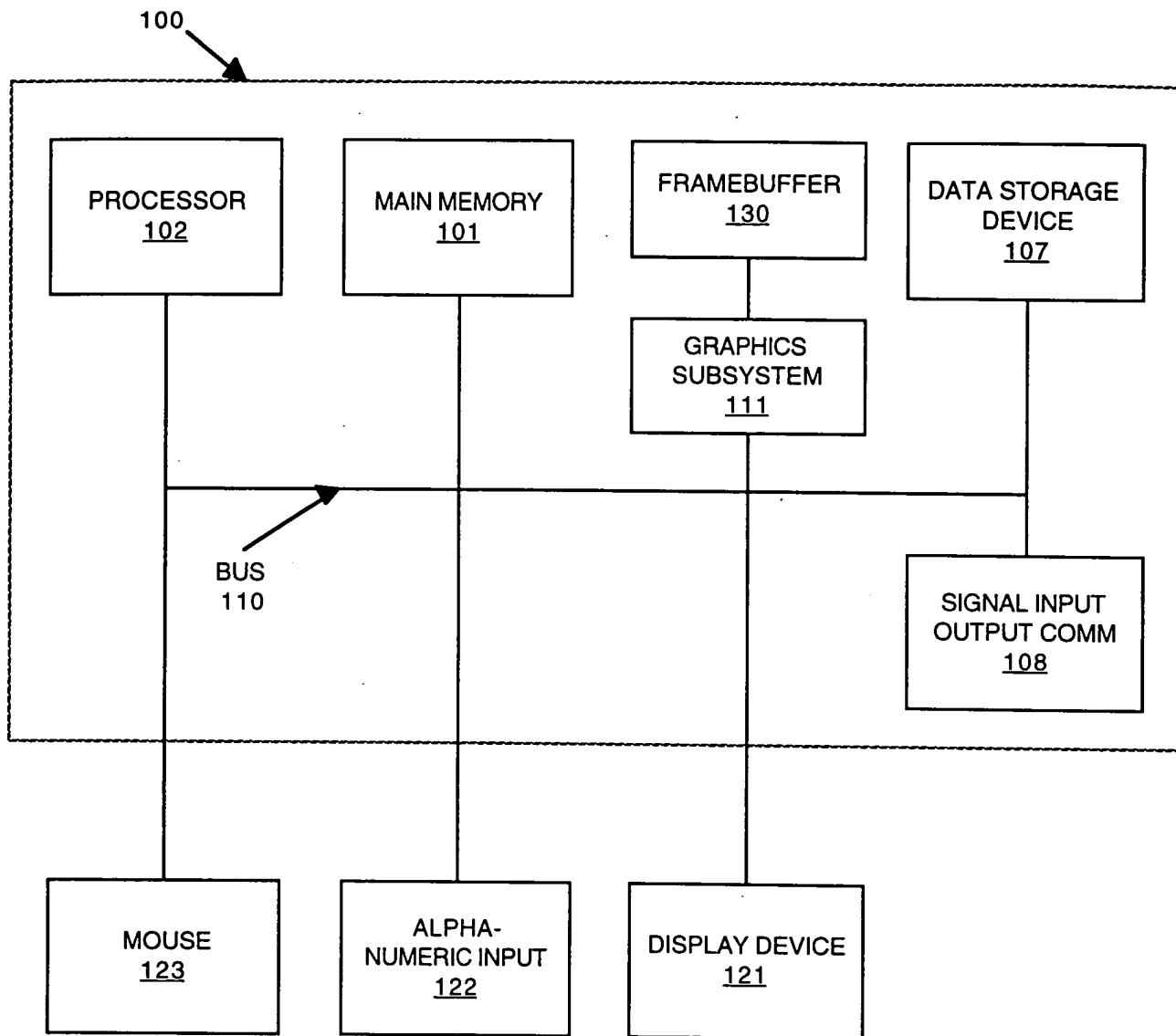


Figure 1

060620-984960

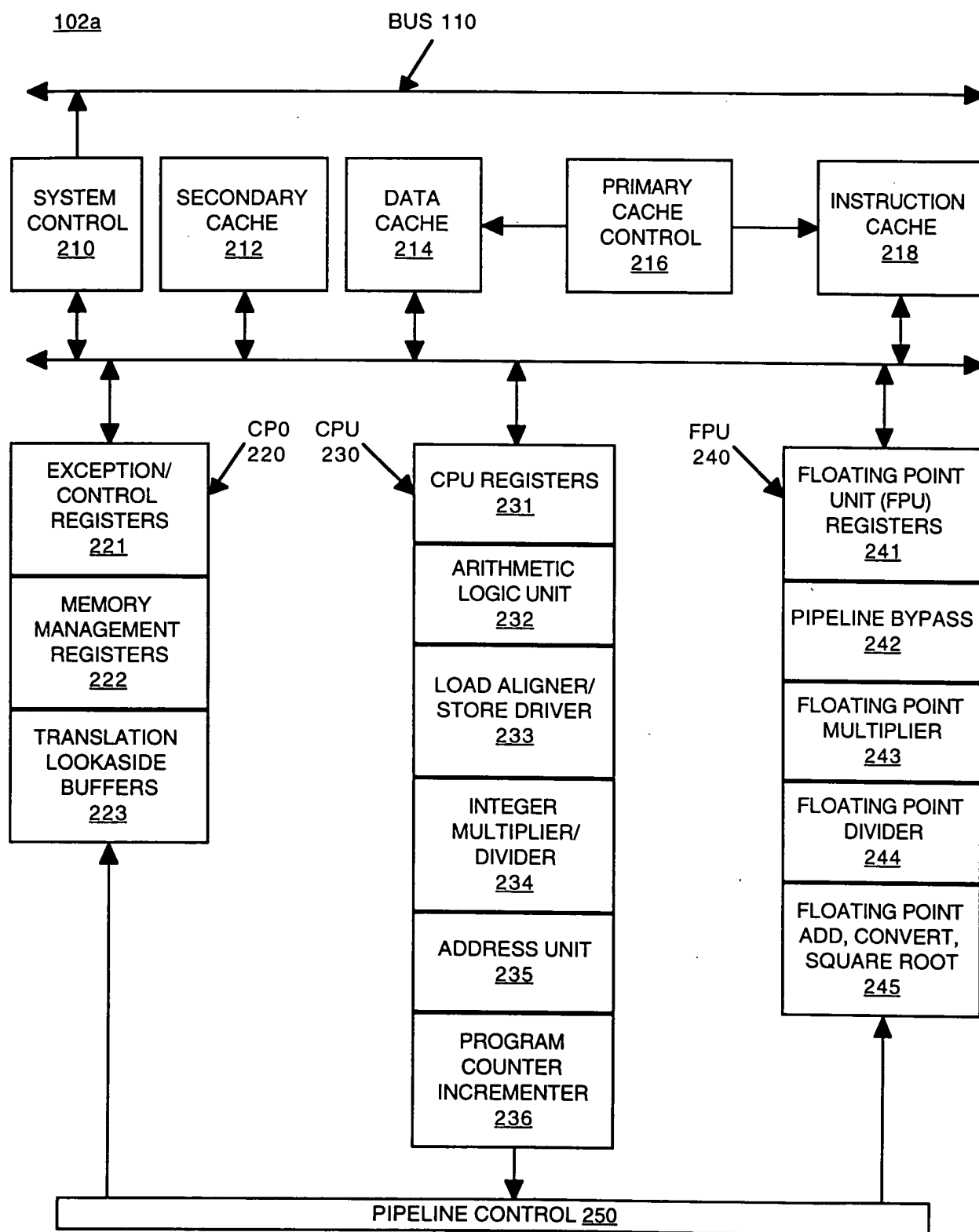


Figure 2A

102b

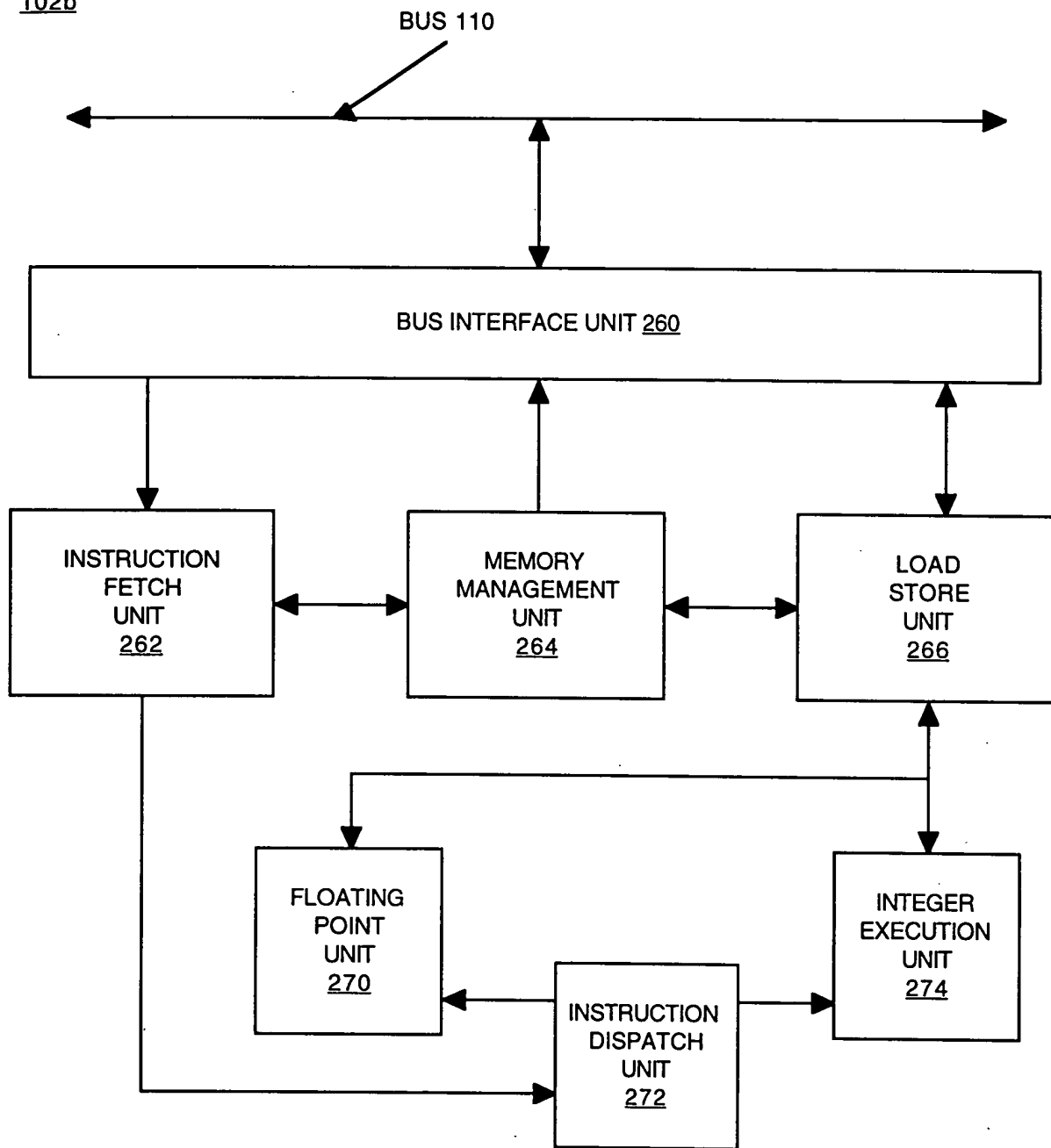


Figure 2B

660E20" 9849E60

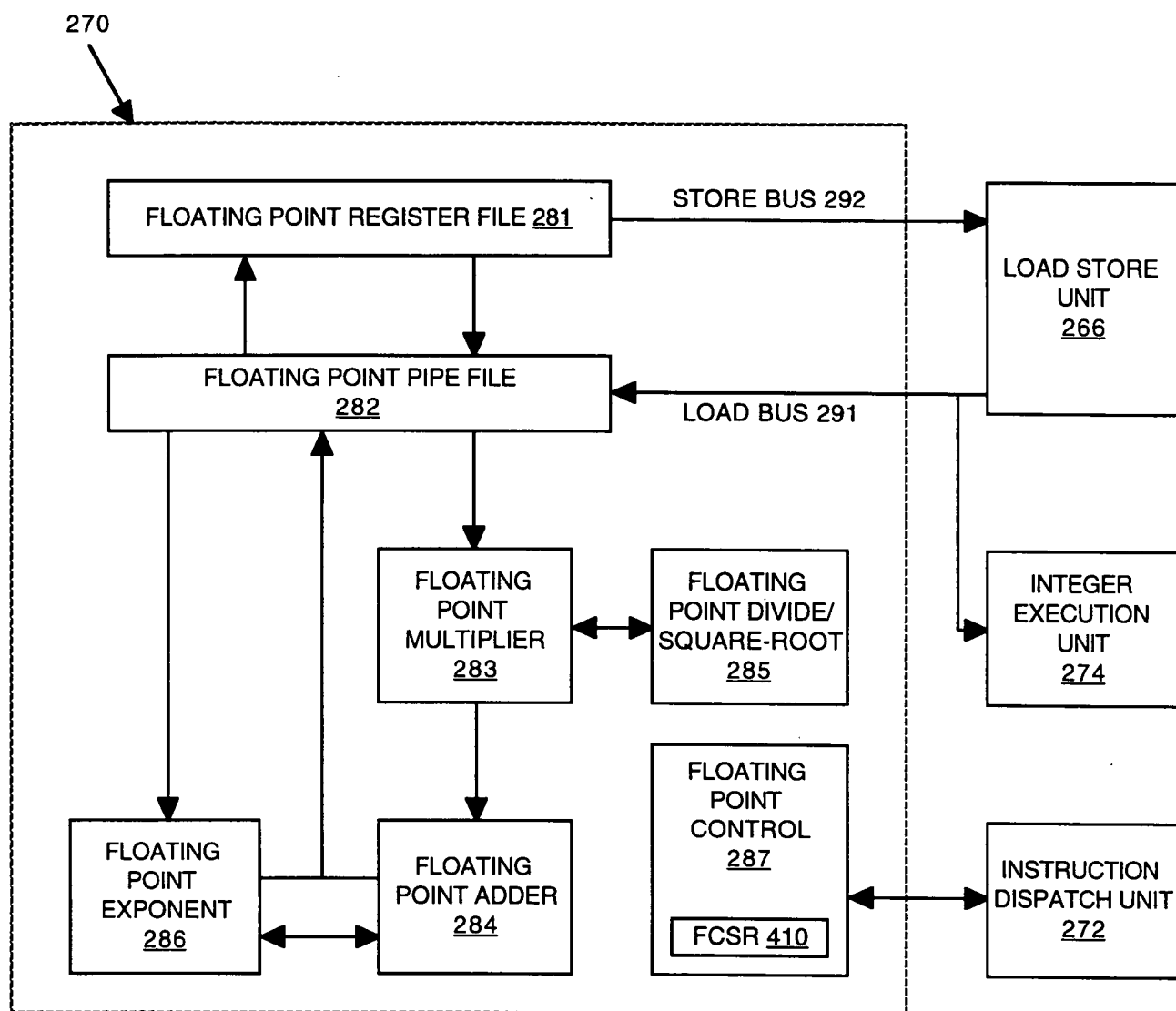


Figure 2C

270

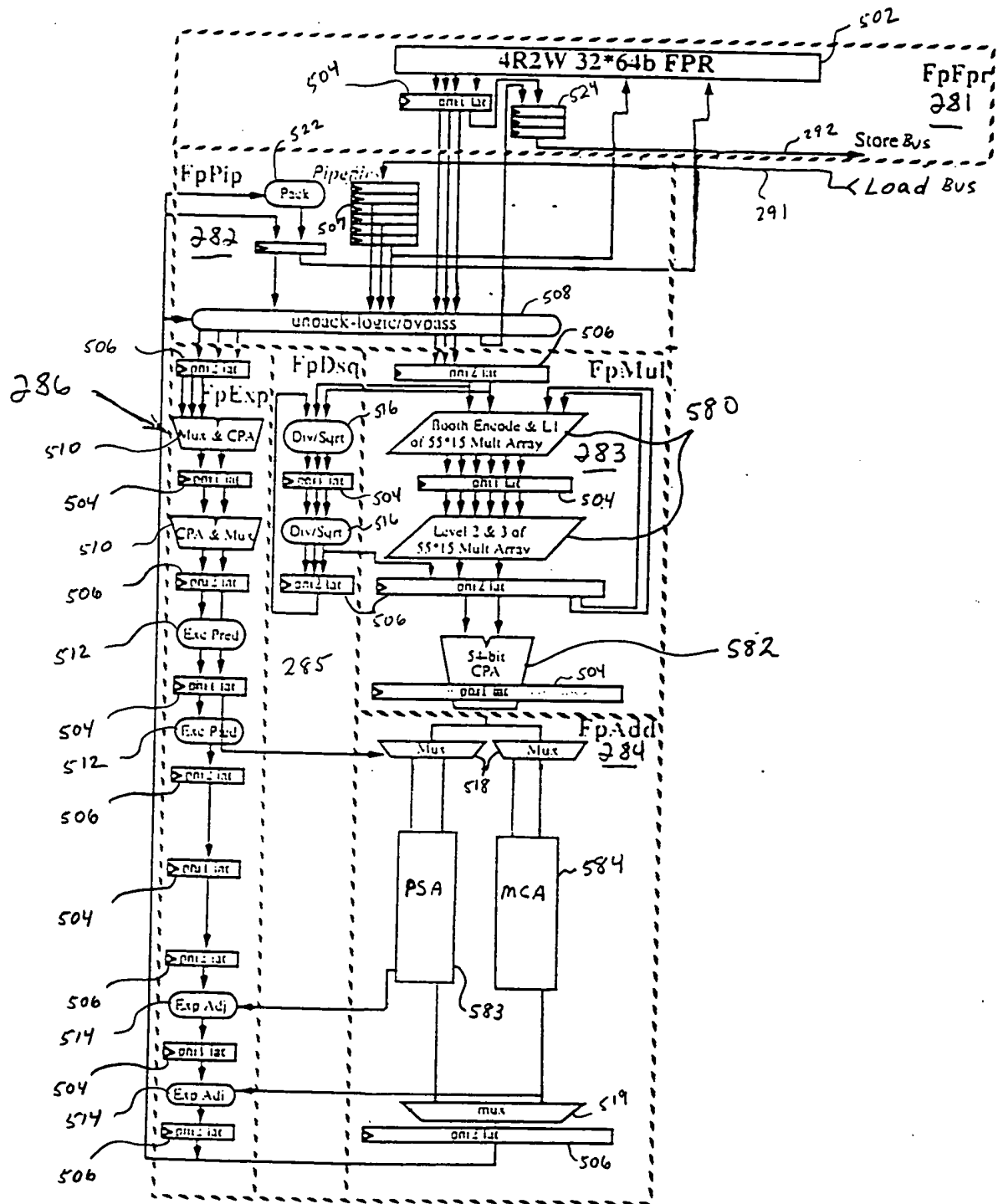


Figure 2D

660620" 98449650

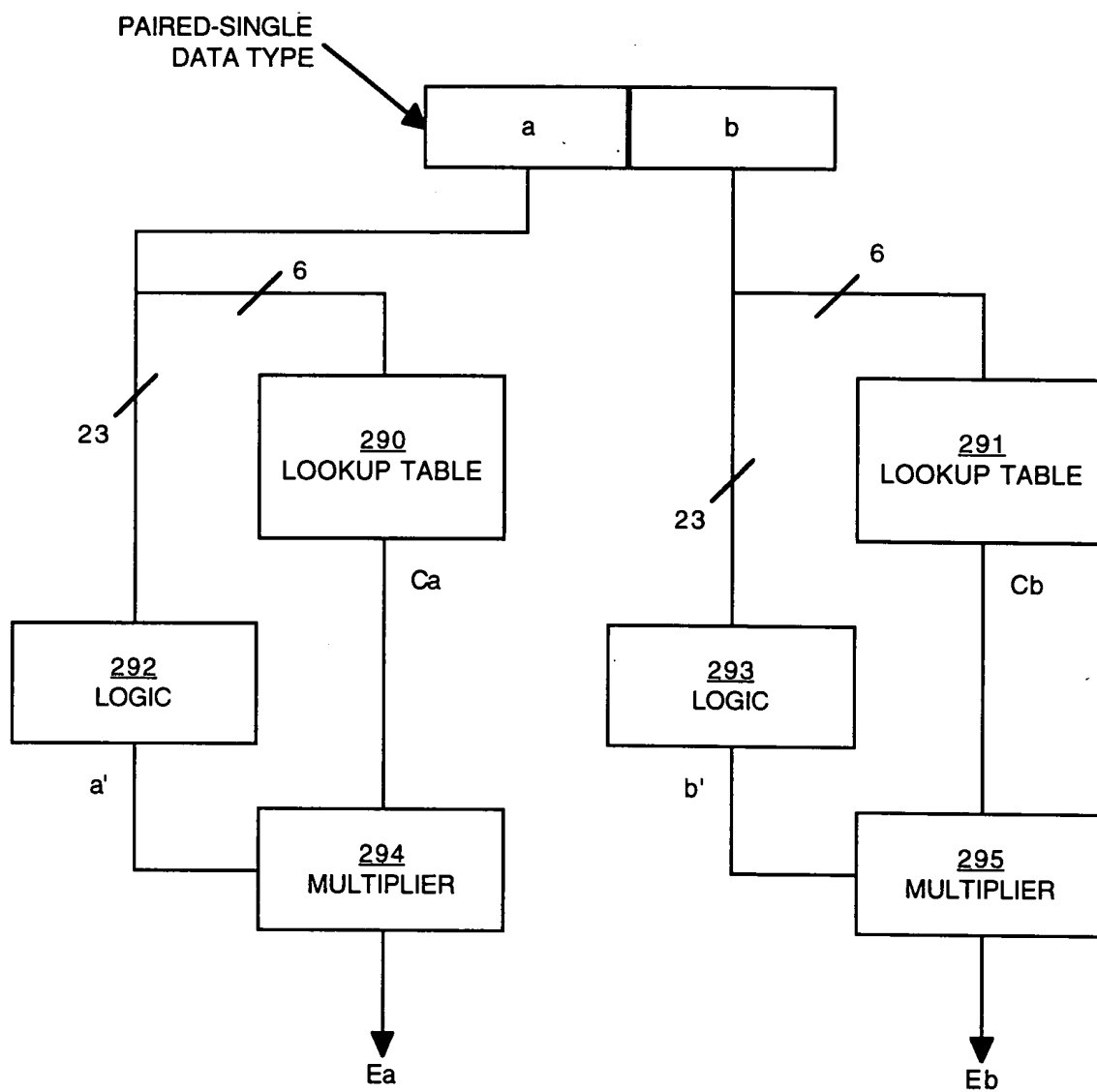


Figure 2E

660E20" 98449E60

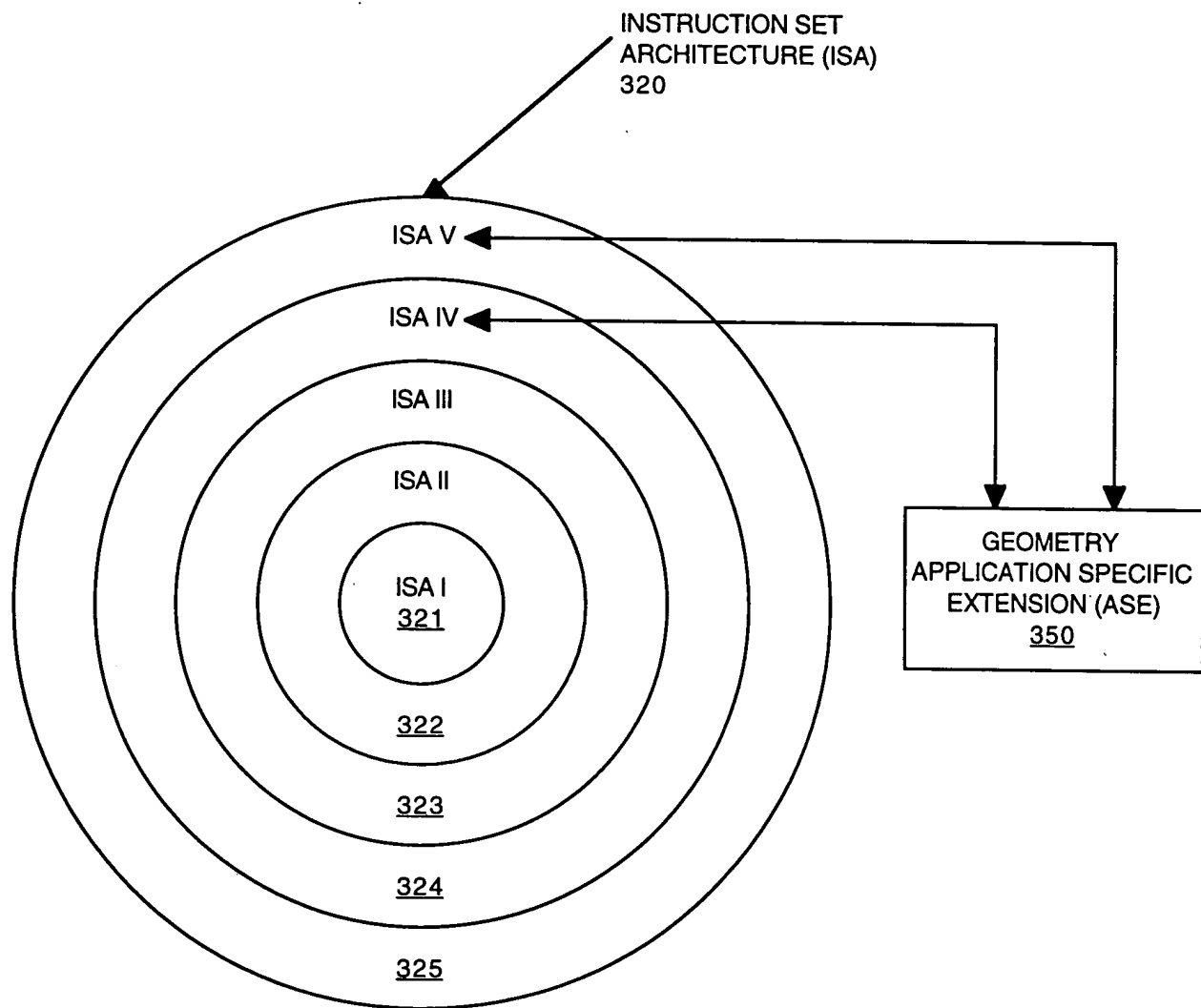


Figure 3

410

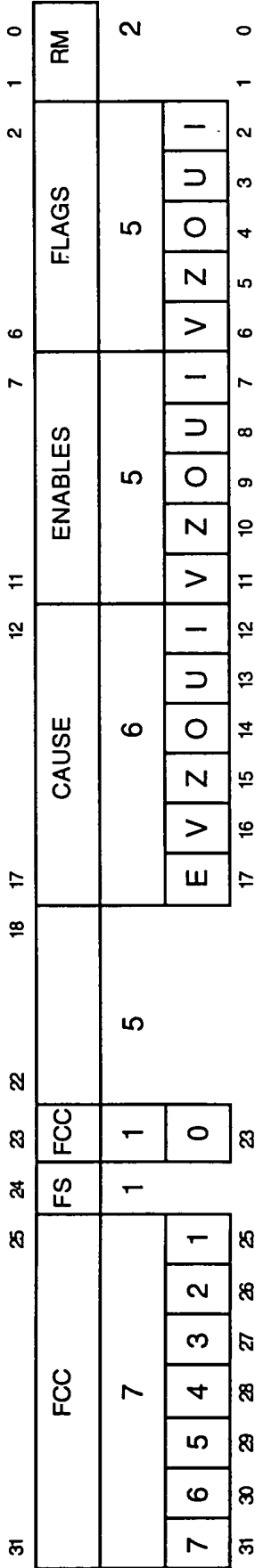


Figure 4

PAIRED SINGLE
DATATYPE
520

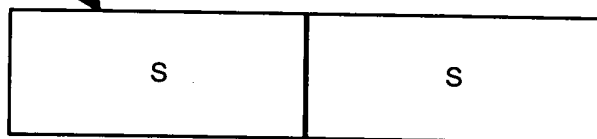
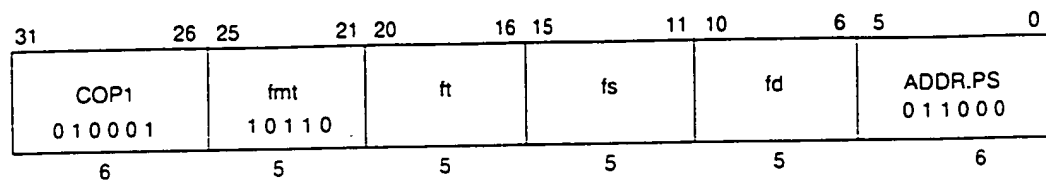


Figure 5

0934736-0209
660620" 98279560

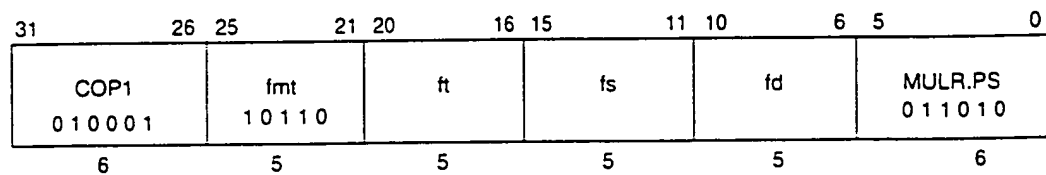
ADDR 601



Format: ADDR.PS fd, fs, ft

Figure 6A

MULR 602

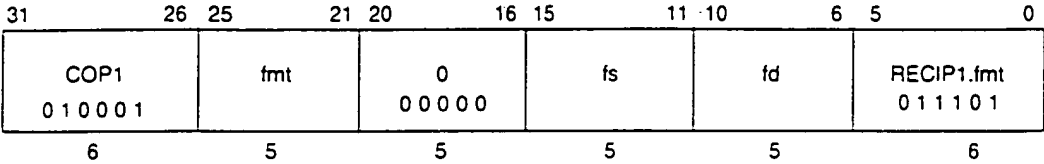


Format: MULR.PS fd, fs, ft

Figure 6B

650E20" 98249E60

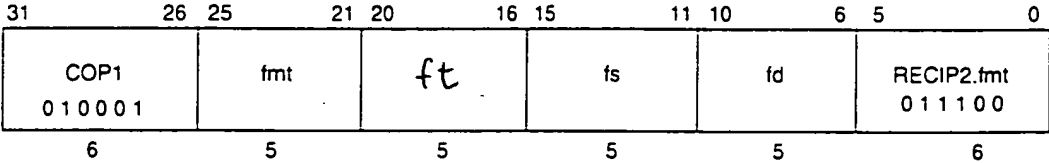
RECIP1 603



Format: RECIP1.S fd, fs
RECIP1.D fd, fs
RECIP1.PS fd, fs

Figure 6C

RECIP2 604

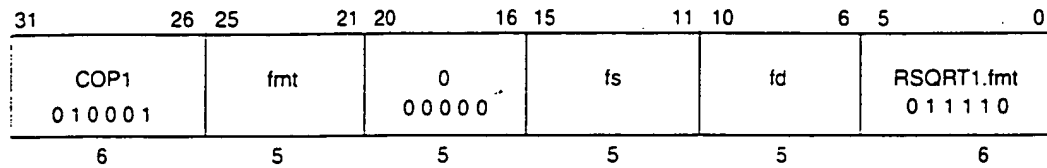


Format: RECIP2.S fd, fs, ft
RECIP2.D fd, fs, ft
RECIP2.PS fd, fs, ft

Figure 6D

00364786-073099
660E20" 98249E60

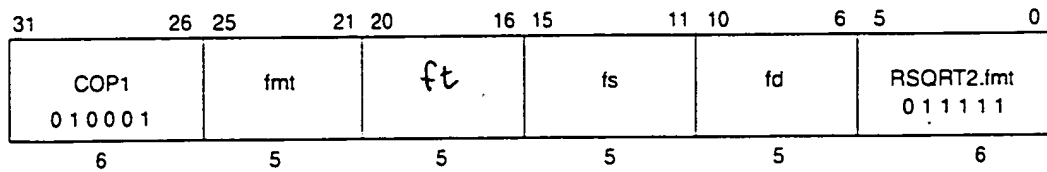
RSQRT1 605



Format: RSQRT1.S fd, fs.
 RSQRT1.D fd, fs
 RSQRT1.PS fd, fs

Figure 6E

RSQRT2 606

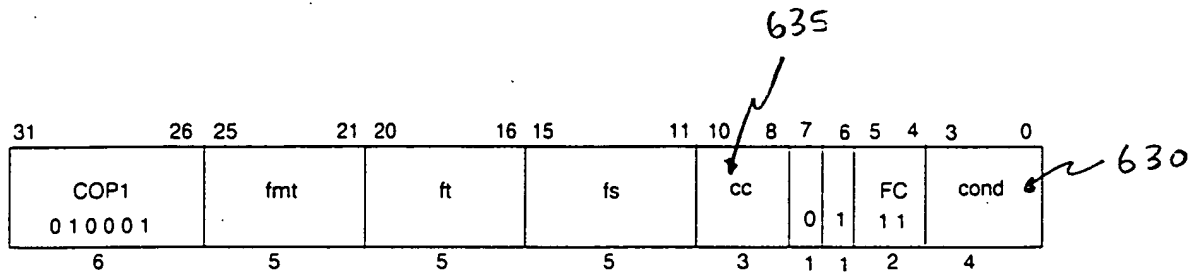


Format: RSQRT2.S fd, fs, ft
 RSQRT2.D fd, fs, ft
 RSQRT2.PS fd, fs, ft

Figure 6F

660E20" 98449E60

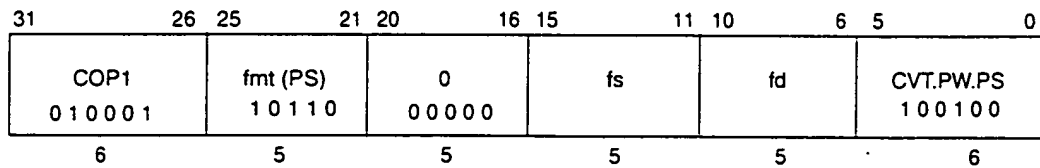
CABS 607



Format: CABS.cond.S cc, fs, ft
 CABS.cond.D cc, fs, ft
 CABS.cond.PS cc, fs, ft

Figure 6G

CVT.PW.PS 608

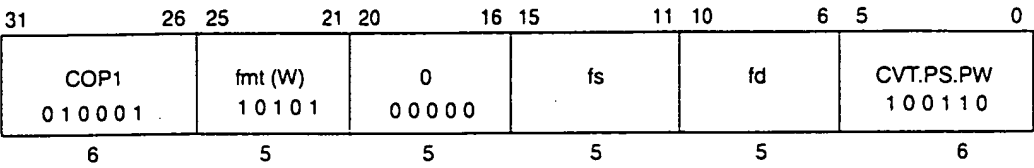


Format: CVT.PW.PS fd, fs

Figure 6H

660E20" 98449E60

CVT.PS.PW 609

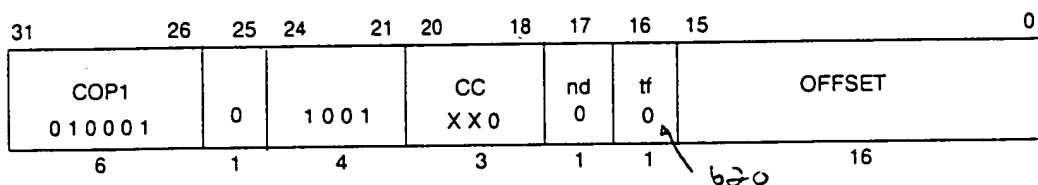


Format: CVT.PS.PW fd, fs

Figure 6I

09364786-0731099
660E20" 98249E60

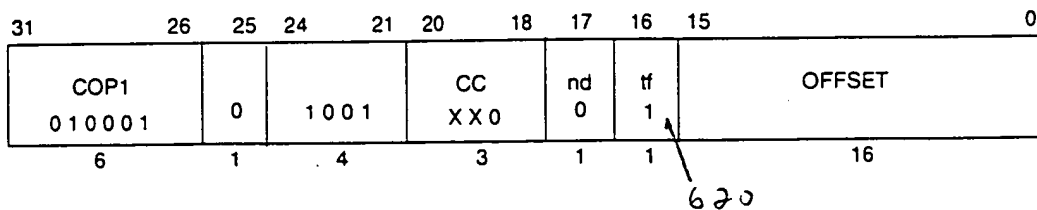
BC1ANY2F 610



Format: BC1ANY2F cc, offset

Figure 6J

BC1ANY2T 611



Format: BC1ANY2T cc, offset

Figure 6K

660E20" 98249E60

06364765 = 02099



620

Figure 6M

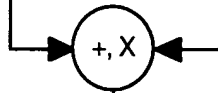
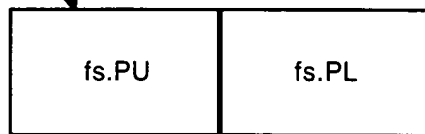
06364765 = 02099



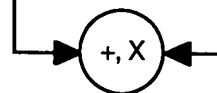
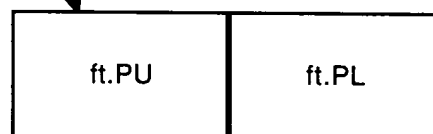
620

09364786.073099
660E20" 98249E60

PAIRED SINGLE
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fs 720



PAIRED SINGLE
DATATYPE
ft 721



PAIRED SINGLE
DATATYPE
fd 722

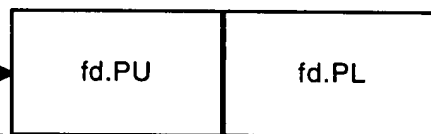
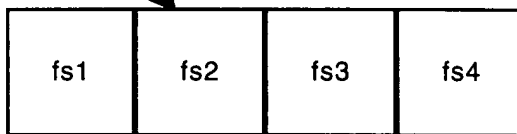


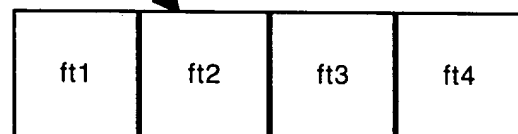
Figure 7A

093647286-073099

QUAD SINGLE
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fs 730



QUAD SINGLE
DATATYPE
ft 731



QUAD SINGLE
DATATYPE
fd 732

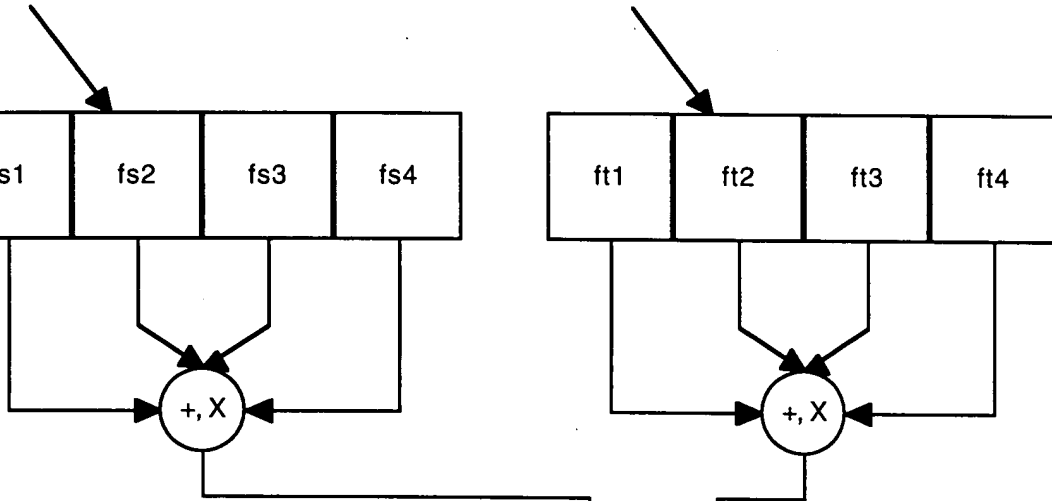
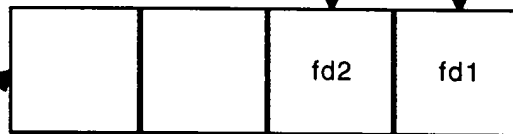
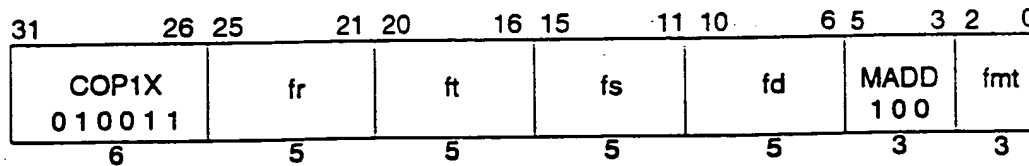


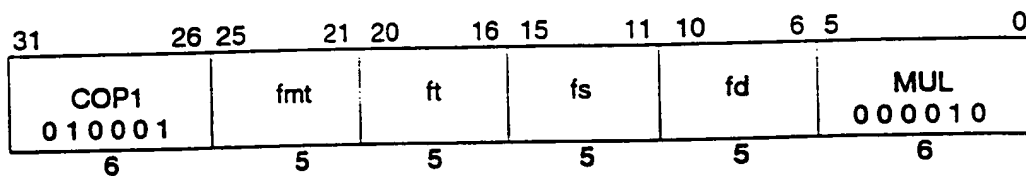
Figure 7B

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Format: MADD.S fd, fr, fs, ft
MADD.D fd, fr, fs, ft
MADD.PS fd, fr, fs, ft

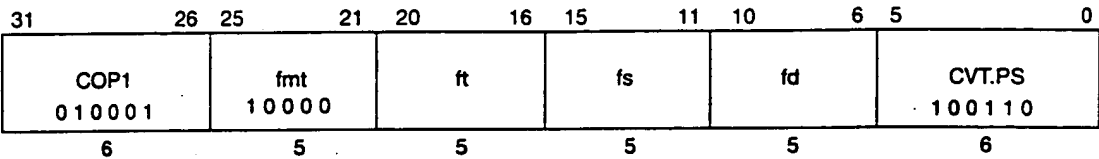
Figure 8



Format: MUL.S fd, fs, ft
MUL.D fd, fs, ft
MUL.PS fd, fs, ft

Figure 9

CVT.PS.S 1001



Format: CVT.PS.S fd, fs, ft

Figure 10

09364786-073099
660E20"9B249E60

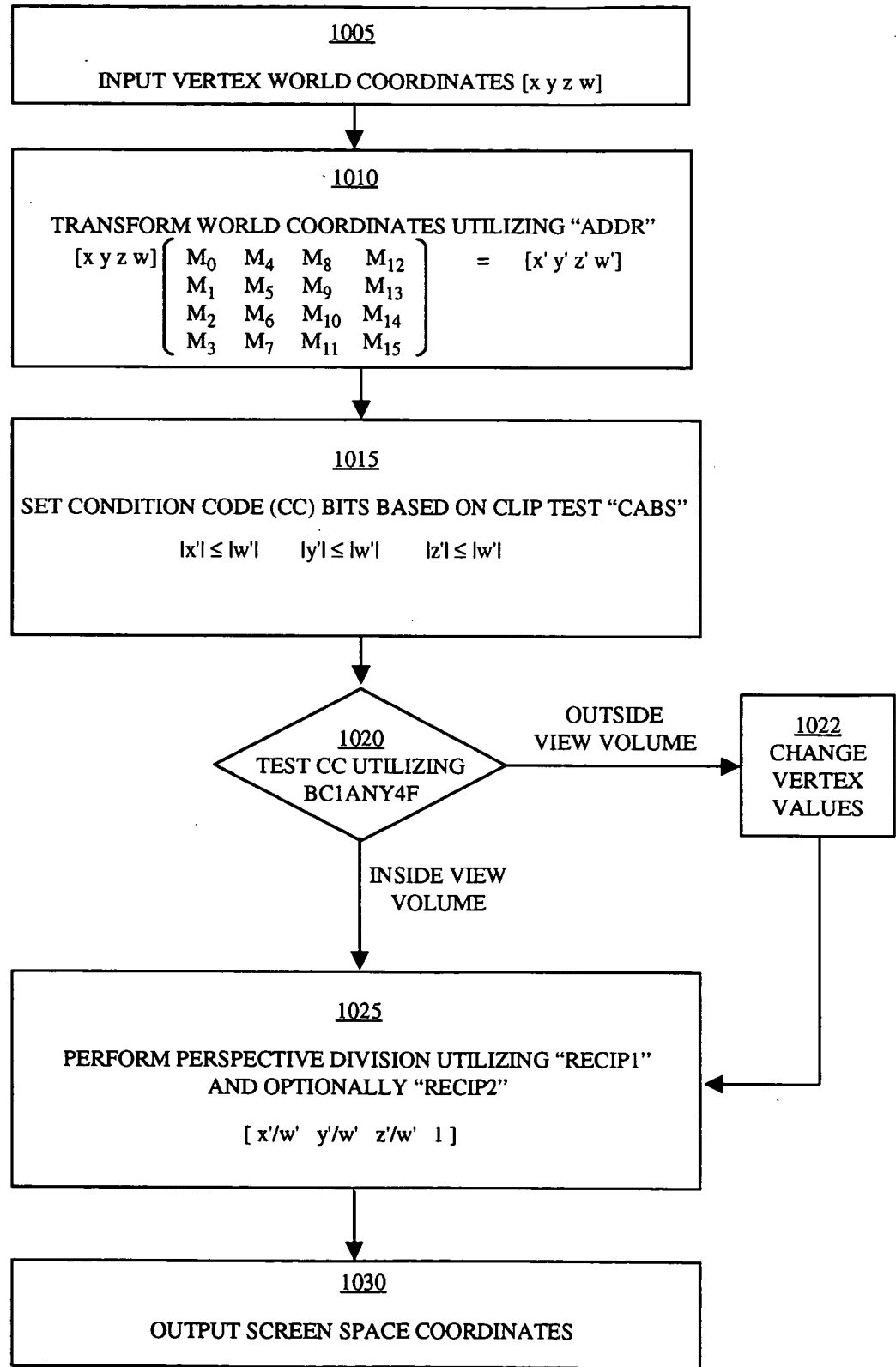


Figure 11A

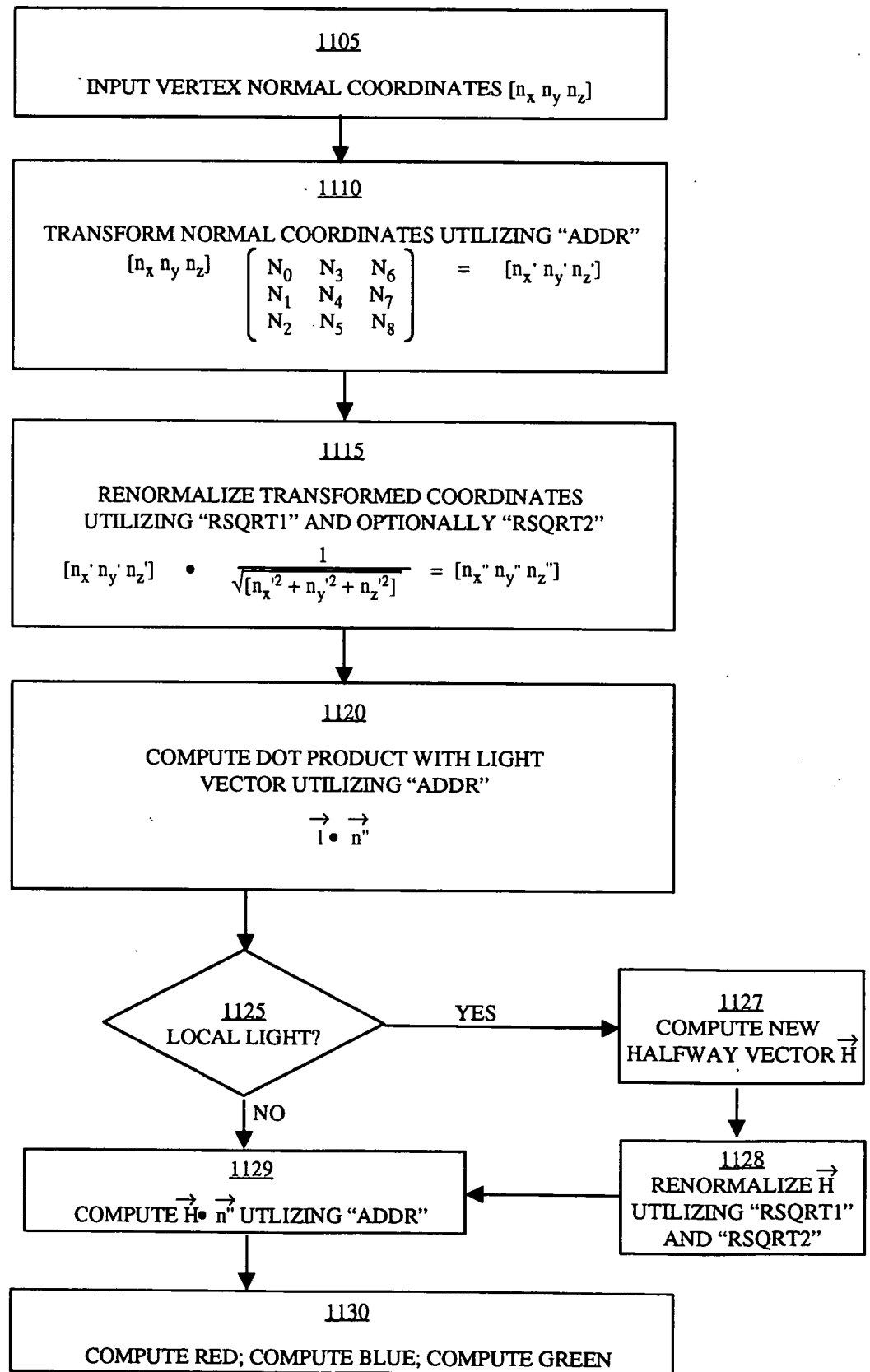


Figure 11B

3D Matrix Transform

[x, y, z, w] *

M ₀	M ₄	M ₈	M ₁₂
M ₁	M ₅	M ₉	M ₁₃
M ₂	M ₆	M ₁₀	M ₁₄
M ₃	M ₇	M ₁₁	M ₁₅

```
# fp0-fp7 contain the 4x4 matrix in pair single format
# base contains the address of the next vector as two pair single values
ld      fp10, 0(base)      # fp10: y || x
ld      fp11, 8(base)     # fp11: w || z
# fp10 available here assuming L1 cache hit. Use prefetch to accomplish this
mul.ps  fp14, fp10, fp4    # fp14: M9y || M8x
mul.ps  fp15, fp10, fp6    # fp15: M13y || M12x
mul.ps  fp12, fp10, fp0    # fp12: M1y || M0x
mul.ps  fp13, fp10, fp2    # fp13: M5y || M4x

# fp14 available here
madd.ps fp14, fp14, fp11, fp5  # fp14: M11w+M9y || M10z+M8x
madd.ps fp15, fp15, fp11, fp7  # fp15: M15w+M13y || M14z+M12x
madd.ps fp12, fp12, fp11, fp1  # fp12: M3w+M1y || M2z+M0x
madd.ps fp13, fp13, fp11, fp3  # fp13: M7w+M5y || M6z+M4x

ssnop
# fp14, fp15 available here
addr.ps fp11, fp15, fp14      # fp11: w' || z'
                                # fp11: M15w+M14z+M13y+M12x || M11w+M10z+M9y+M8x

# fp12, fp13 available here
addr.ps fp10, fp13, fp12      # fp10: y' || x'
                                # fp10: M7w+M6z+M5y+M4x || M3w+M2z+M1y+M0x
```

Fig. 12